

TRANSLATION

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 157-61.357PCT/AP/ds	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/EP2004/012723	International filing date (<i>day/month/year</i>) 10.11.2004	Priority date (<i>day/month/year</i>) 10.11.2003
International Patent Classification (IPC) or national classification and IPC B23K26/06		
Applicant SAUER GMBH		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>7</u> sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising: a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of <u>6</u> sheets, as follows: <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items: <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

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Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-12 as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- nos. _____ as originally filed/furnished
- nos.* 1-18 as amended (together with any statement) under Article 19
- nos.* _____ received by this Authority on _____
- nos.* _____ received by this Authority on _____
- ☒ the drawings:
- sheets 1/2, 2/2 as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1.	Statement		
	Novelty (N)	Claims <u>10-18</u>	YES
		Claims <u>1-9</u>	NO
	Inventive step (IS)	Claims _____	YES
		Claims <u>1-18</u>	NO
	Industrial applicability (IA)	Claims <u>1-18</u>	YES
		Claims _____	NO
2.	Citations and explanations (Rule 70.7)		
	This report makes reference to the following documents:		
	D1: US 6 462 306 B1 (KITAI ANTON THEODORE ET AL) 8 October 2002 (2002-10-08)		
	D2: US 5 073 687 A (INAGAWA ET AL) 17 December 1991 (1991-12-17)		
	D3: US 5 126 532 A (INAGAWA ET AL) 30 June 1992 (1992-06-30)		
	D4: US 2002/056291 A1 (SCHULTZ PETER ET AL) 16 May 2002 (2002-05-16)		
	D5: US 5 103 073 A (DANILOV ET AL) 7 April 1992 (1992-04-07)		
	D6: US 2002/134772 A1 (TROLSTSKI IGOR ET AL) 26 September 2002 (2002-09-26)		
	D7: US 5 093 548 A (SCHMIDT-HEBBEL ET AL) 3 March 1992 (1992-03-03)		
	D8: DE 199 60 797 C1 (MTU AERO ENGINES GMBH) 13 September 2001 (2001-09-13)		
2	INDEPENDENT CLAIM 1		
2.1	As explained below, some of the features, namely the phrase in italics under point 2.2, in claim 12 relate to a method of using the device and not to		

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	<p>the definition of the device using its technical features. The intended limitations are therefore not clear from the claim (PCT Article 6) and were therefore not taken into account in the interpretation of claim 1.</p> <p>2.2 The present application fails to meet the requirements of PCT Article 33(1) because the subject matter of claim 1 is not novel within the meaning of PCT Article 33(2).</p> <p>D1 (the references in parentheses are to D1) discloses:</p> <p>laser machining apparatus having a workpiece holder (36) for holding a workpiece (12), a first laser removing device (82) for laser drilling a workpiece using first operating parameters (see column 6, lines 30-34), and a second laser removing device (84) with which a workpiece can be machined using second operating parameters (see column 6, lines 35-39), which differ from the first operating parameters.</p> <p>The second laser removing device (84) <i>is designed for creating recesses by layer-by-layer removal of material</i>, wherein the laser beam outlets (86, 88) of the two laser removing devices are rigidly offset relative to each other with respect to at least one, preferably two, axes, more preferably with respect to the two horizontal axes (x, y), and mechanical control elements</p>

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	<p>are provided by means of which the workpiece can be moved translatorically with respect to a machine frame (see column 4, lines 27-29).</p> <p>2.3 D2, D3, D4, D5 and D6 also disclose all the features of claim 1.</p> <p>3 INDEPENDENT CLAIM 12</p> <p>3.1 The present application fails to meet the requirements of PCT Article 33(1) because the subject matter of claim 12 does not involve an inventive step within the meaning of PCT Article 33(3).</p> <p>D1 is considered to be the prior art closest to the subject matter of claim 12. D1 (the references in parentheses are to D1) discloses:</p> <p>laser machining method in which a workpiece (12) is clamped and then machined by means of laser light, wherein, without reclamping, a first machining step of the laser boring process is carried out by means of a first laser removing device using first operating parameters (see column 6, lines 30-34) and a second machining step is carried out by means of a second laser removing device for machining the workpiece using second operating parameters (see column 6, lines 35-39), which differ from the first operating parameters (see column 6, lines 5-23);</p>

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the lasers of both laser removing devices are radiated from laser beam outlets (86, 88), which are rigidly offset relative to each other (only the galvo pairs (32, 28) are moved) with respect to at least one, preferably two, axes, more preferably, with respect to the two horizontal axes (x, y), and the workpiece can be moved translatorically with respect to a machine frame by means of mechanical control elements (see column 4, lines 27-29).

Thus the subject matter of claim 12 differs from the known method in that

"the second machining step is that of creating a recess by means of layer-by-layer removal of material".

These features, however, have already been used for the same purpose in a similar method (see D8, in particular column 4, lines 6-9 and 61-64). If a person skilled in the art wished to achieve the same aim in a device as per D1, this person could easily apply these features with like effect to the subject matter of D1. In this way a person skilled in the art would arrive at a method as per claim 12 without thereby being inventive.

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	<p>The dependent claims do not appear to contain any features which, in combination with the features of any claim to which they refer, meet the PCT requirements for novelty (claims 2 to 9) or inventive step (claims 10, 11 and 14 to 18).</p>